

An anamorphic genus and species newly recorded from Turkey

MAKBULE ERDOĞDU & ELŞAD HÜSEYİN

makarahana@hotmail.com

*Ahi Evran University, Arts and Sciences Faculty
Kırşehir, 40100, Turkey*

Abstract — *Diplosporonea delastrei* is reported for the first time from Turkey on *Silene latifolia* subsp. *alba*. Description and illustrations are presented, all based on Turkish material.

Key words — microfungi, coelomycetes, new record

Introduction

Turkey is one of the richest areas in the middle latitudes in terms of plant diversity. Turkish flora includes 12,000 species and still a great number of new species are being described (Avcı 2005). This diversity of the host species is an important factor for the diversity of microfungi as well, making microfungi biota in Turkey very rich. The first data on micromycetes, including coelomycetes, were recorded by Bremer et al. (1947, 1952) and Petrak (1953). The subsequent data on coelomycetes were published in the paper devoted to diseases of cultivated plants (Karel 1958) and as results of the research by Göbelez (1967). Observations on coelomycetes in Turkey have increased during last decade (Altan & Tamer 1996, Hüseyinov & Selçuk 1999, Braun et al. 2000, Hüseyinov 2000, Hüseyin & Selçuk 2001, Hüseyinov et al. 2002, Selçuk et al. 2003, Kırbağ 2004, Mel'nik et al. 2004, Hüseyin et al. 2005, 2007, Erdoğan & Hüseyin 2007).

Material and methods

Microscopic examination and microphotographs were done by means of Leica DM E light microscope. Novex P-20 stereo microscope was used for close-up photo of the acervuli on leaf surface. Conidiomata sections were prepared by razor blade. The fungus was identified using the relevant literature (Ellis & Ellis 1985, Ignatavičiūtė & Treigienė 1998, Sutton 1980). The host plant was identified using the “Flora of Turkey and East Aegean Islands” (Davis 1967). The examined specimen is deposited in the mycological collection of Ahi

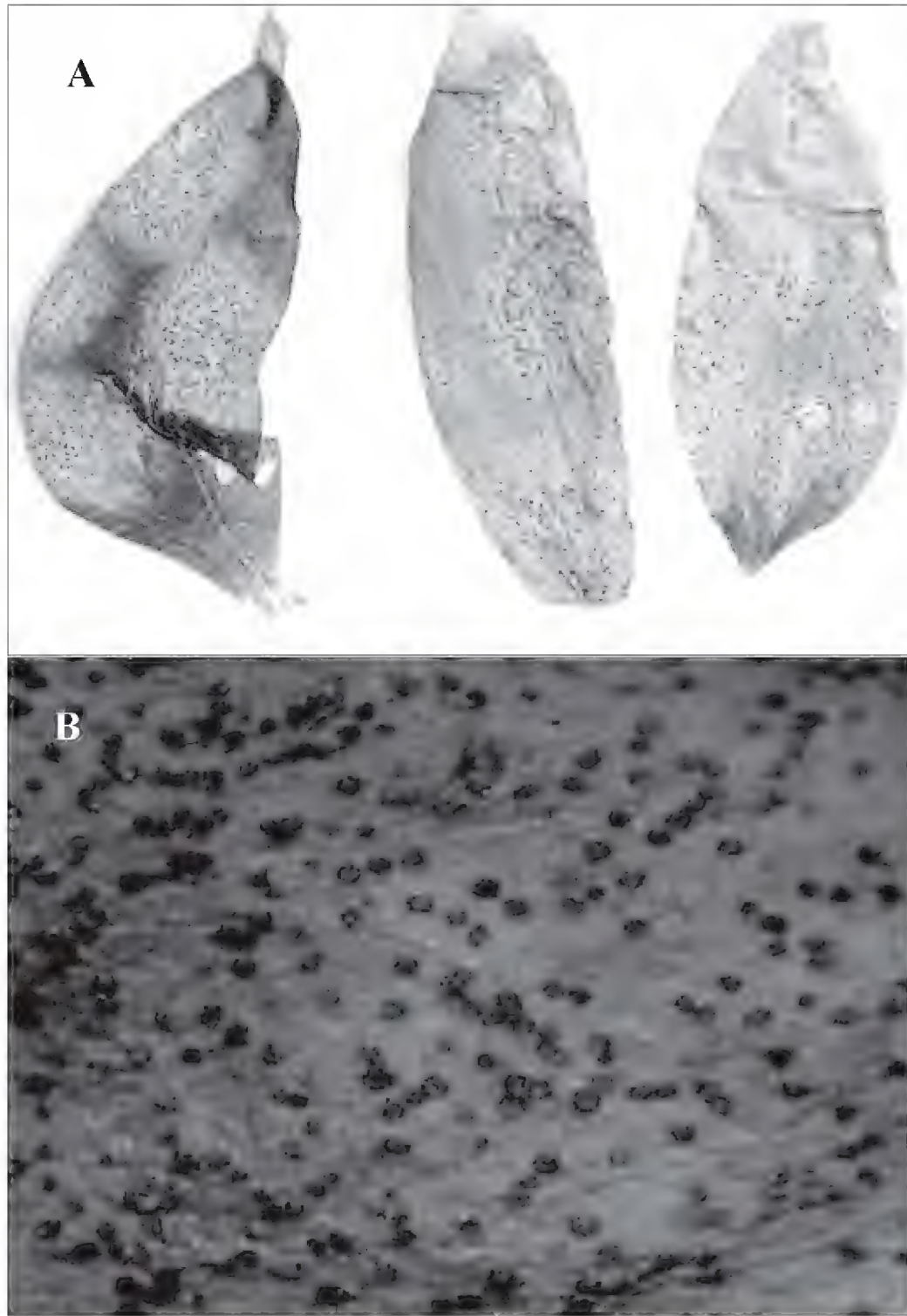


FIG. 1. *Diplosporonema delastrei*.
A. Leaf spots. $\times 2$; B. Acervuli on leaf. $\times 40$.

Evran University, Arts and Sciences Faculty, Department of Biology, in Kırşehir province of Turkey.

Results

The genus *Diplosporonema* and its species *D. delastrei* have not been reported for Turkey in the literature. Description and illustrations of this species based on a Turkish collection are given on the next page.

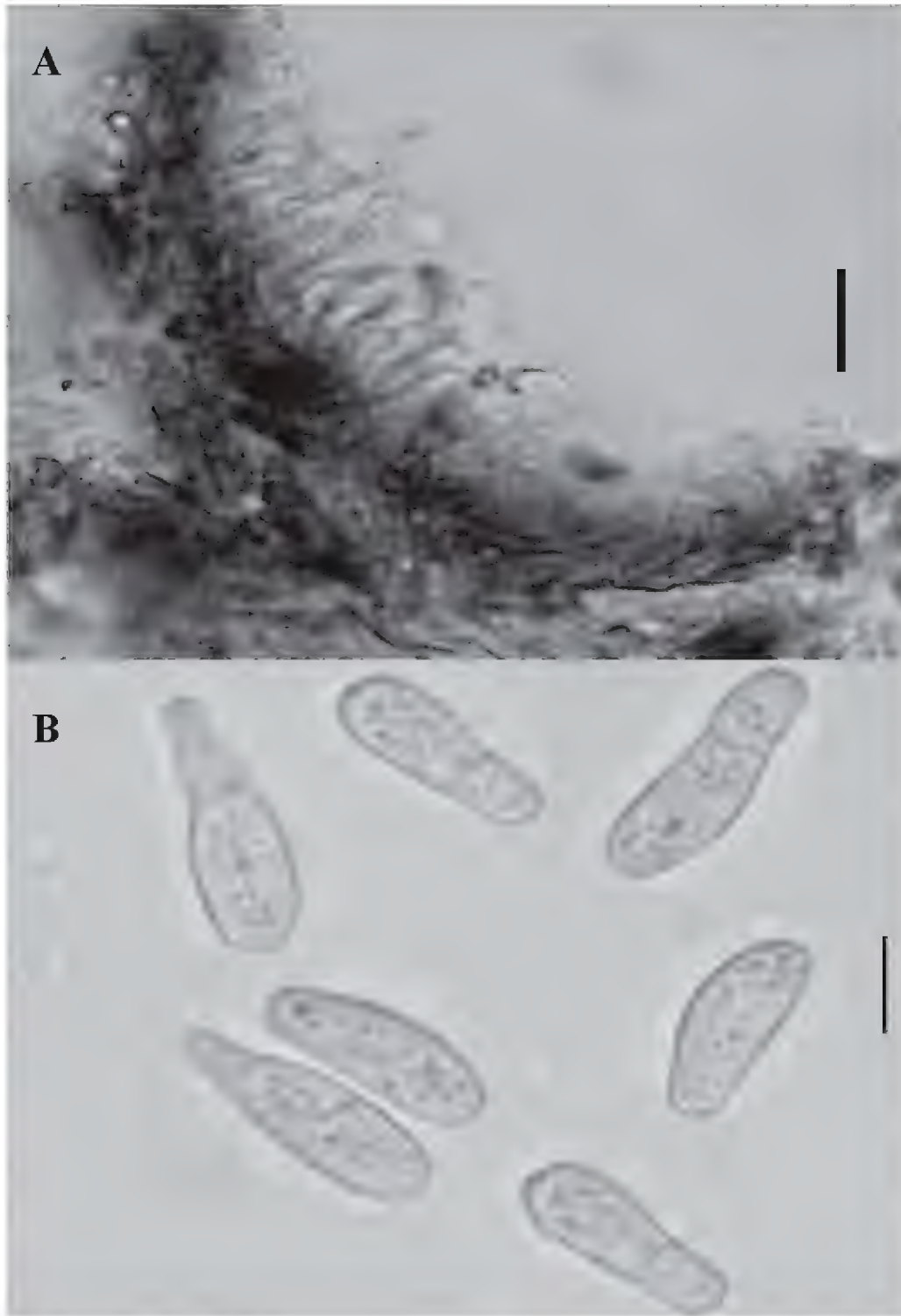


FIG. 2. *Diplosporonema delastrei*.

A. Vertical section of a conidioma. Scale bar = 18 µm.

B. Conidia. Scale bar = 10 µm.

Diplosporonema delastrei (Lacroix) Petr., Sydowia 1: 74, 1947.

Gloeosporium delastrei Lacroix, in Montagne, Annales des
Sciences Naturelles, Botanique, Série 4, 5: 345, 1856.

Marssonina delastrei (Lacroix) Sacc., Michelia 2(6): 119, 1880.

Marssonina delastrei (Lacroix) Magnus, Hedwigia 45: 89, 1906.

Phragmosporonema delastrei (Lacroix) Moesz & Smarods,
in Moesz, Magyar Bot. Lapok 33: 52, 1934.

FIGS. 1–2

Foliicolous. Spots on both sides of leaves, pale yellow to pale brown on the upper surface, pale brown on the lower, sometimes purple-bordered, regular or irregularly rounded, 0.3–1.5 cm diam, sometimes elongated, 1.5–2.5 × 0.4–1 cm (FIG. 1A). CONIDIOMATA acervular, amphigenous, epidermal to subepidermal, scattered, yellowish, circular, 100–165 µm diam, thin-walled, *textura angularis* (FIG. 1B, 2A). CONIDIOPHORES hyaline, smooth, septate, branched penicillately or irregularly at the apex, 20–30 × 2–4 µm, developing from the upper pseudoparenchyma. CONIDIOGENOUS CELLS hyaline, cylindrical to subcylindrical, 6–12 × 4.5–5.5 µm, holoblastic, sympodial, indeterminate, integrated or discrete, smooth, with 1–2 conidia formed sympodially from broad, flat, unthickened scarcely protuberant scars. CONIDIA hyaline, straight or curved, subcylindrical to clavate, 17.5–25 × 5–6.5 µm, smooth, thin walled, eguttulate, 1–2-euseptate, not constricted, base truncate, apex obtuse (FIG. 2B).

SPECIMEN EXAMINED — TURKEY, Erzincan Prov., Kemaliye, Ipek road, on living leaves of *Silene latifolia* subsp. *alba* (Mill.) Greuter & Burdet (= *Silene alba* (Mill.) E.H.L. Krause) (*Caryophyllaceae*), alt. 1311 m, 04-VII-2007, coll. M. Erdoğan (ME 2012).

Discussion

Höhnelt (1917) introduced the generic name *Diplosporonema* for *Gloeosporium delastrei*, the conidial state of the teleomorphic species *Pyrenopeziza agrostemmatidis* Fuckel [= *Diplocarpon saponariae* (Ces.) Nannf.]. However, he did not recombine *G. delastrei* in the new genus. The binominal *Diplosporonema delastrei* was not validly published until Petrak (1947) presented it as the correct name for *Phragmosporonema delastrei* (pointing out that *Phragmosporonema* Moesz is a superfluous name based on the same type as *Diplosporonema* Höhn.).

Diplosporonema delastrei (the only species in the genus) develops on leaves, rarely stems, of numerous genera of the *Caryophyllaceae*. It is known from Africa, Asia, Europe and North America (Grove 1937, Švarzman et al. 1971, Ignatavičiūtė & Treigienė 1998, Sutton 1980, Andrianova & Golubtsova 2006, and others).

Acknowledgments

We would like to thank TÜBİTAK (The Scientific and Technological Research Council of Turkey) for financial supporting this project (ÇAYDAG-105Y016). The authors would like to Dr. Tetiana V. Andrianova (Kiev, Ukraine), Dr. Eugene Yurchenko (Minsk, Belarus), Dr. Shaun Pennycook (Auckland, New Zealand) for critically reading the manuscript and serving as presubmission reviewers and Dr. Lorelei L Norvell (Mycotaxon, USA) for help in preparing of the manuscript for publication.

Literature cited

- Andrianova TV, Golubtsova JI. 2006. Anamorphic fungi of plant communities of Novgorod-Siversk Polissya. Ukr. Botan. Journ. 63(6): 765–776.
- Altan Y, Tamer AÜ. 1996. The parasitic fungi occurring on some endemic plants in Turkey and their damaging effects. In: MA Öztürk et al. (eds), Plant life in South-West and Central Asia. Ege University Press: İzmir (Turkey), pp. 398–401.
- Avcı M. 2005. Diversity and endemism in Turkey's vegetation. Coğrafya Dergisi 13: 27–55.
- Braun U, Mel'nik V, Hüseyinov E, Selçuk F. 2000. *Mycopappus alni* on species *Betula* and *Pyrus* from Turkey. Mikologia i Fitopatologia 34(6): 1–2.
- Bremer H, Ismen H, Karel G, Özkan M. 1947. Beiträge zur Kenntnis der parasitischen Pilze der Türkei. I. Revue de la Faculté des Sciences de l'Université d'Istanbul. Ser. B 12(2): 307–334.
- Bremer H, Karel G, Bıyıkoglu K, Göksel N, Petrak F. 1952. Beiträge zur Kenntnis der parasitischen Pilze der Türkei. VI. Revue de la Faculté des Sciences de l'Université d' Istanbul. Ser. B 17(3): 259–275.
- Davis PH (ed.). 1967. Flora of Turkey and East Aegean Islands. Vol. 2. Edinburgh University Press: Edinburgh. 581 pp.
- Ellis BM, Ellis JP. 1985. Microfungi on land plants. Croom Helm: London, Sydney. 818 pp.
- Erdoğan M, Hüseyin E. 2007. The world's second record of *Hyalodictyum colchicum* reported from Turkey. Mycotaxon 99: 245–250.
- Göbelez M. 1967. La mycoflore de Turguie. II. Mycopathologia et Mycologia Applicata 23(1): 47–67.
- Grove WB. 1937. British stem- and leaf-fungi (*Coelomycetes*). Vol. 2. Cambridge University Press: London. 407 pp.
- Höhnelt F von. 1917. Fragmente zur Mycologie no. 1017. Über *Pyrenopeziza agrostemmatidis* Fuckel. Sber. Akad. Wiss. Wien 126: 333–335.
- Hüseyin E, Selçuk F. 2001. New and poorly known genera of microfungi for Turkey. Turk. J. Bot. 25(6): 437–438.
- Hüseyin E, Selçuk F, Sahin A. 2005. The world's second record of *Neoheteroceras flageoletii* reported from Turkey. Mycotaxon 94: 241–244.
- Hüseyin E, Erdoğan M, Bülbül AS. 2007. A new species of *Cylindrosporium*. Mycotaxon 101: 325–330.
- Hüseyinov E. 2000. New records of microfungi for Turkey. Israel Journal of Plant Sciences 48(1): 75–78.
- Hüseyinov E, Selçuk F. 1999. New records of phytopathogenic microfungi for Turkey. Plant Disease Research 14(2): 175–176.
- Hüseyinov E, Mel'nik V, Selçuk F. 2002. *Ceratophorum helicosporum* – a new for mycoflora of Turkey genus and species of *Hyphomycetes* (*Dematiaceae*). Mikologia i Fitopatologia 36(3): 11–13.
- Ignatavičiūtė M, Treigienė A. 1998. Mycota Lithuaniae. Vol: 9, *Melanconiales*. UAB 'Valstiečių laikraštis': Vilnius. 246 pp.
- Karel GA. 1958. A preliminary list of plant disease in Turkey. Ayyıldız Matb: Ankara. 44 pp.
- Kırbağ S. 2004. New records of microfungi from Turkey. Pak. J. Bot. 36(2): 445–448.
- Mel'nik V, Hüseyin E, Selçuk F. 2004. Contribution to the studying of micromycetes in several Black Sea provinces of Turkey. Novosti Sistematiki Nizshikh Rasteniy. Nauka: Sankt-Petersburg. 37: 133–148.
- Petrak F. 1947. Kritische Bemerkungen über einige, in letzter Zeit als neu beschriebene Ascomyzeten und Fungi imperfecti. Sydowia 1(1–3): 61–79.

- Petrak F. 1953. Neue Beiträge zur Pilzflora der Türkei. Sydowia 7(1–4): 14–44.
- Selçuk F, Hüseyin E, Bitmiş K. 2003. Some materials on mitosporic fungi from Turkey. II. *Coelomycetes*. Botanica Lithuanica 9(2): 161–170.
- Švarcman SR, Vasjagina MP, Pisareva NE, Byzova ZM. 1971. Flora sporavikh rasteniy Kazakistana. Vol. 7. Nesovershennye griby Fungi Imperfecti (*Deuteromycetes*) *Melanconiales*, Alma-Ata. 263 pp.
- Sutton BC. 1980. The *Coelomycetes*. Fungi imperfecti with pycnidia, acervuli and stromata. Commonwealth Mycological Institute: Kew. 696 pp.